CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.10/SN/CEMENT/2014-15

Date: 20.06.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	:	**Mr. S. Narayanaswamy**, Contractor, Bangalore.
NAME OF THE WORK	:	Improvements to roads and drains opp. to Chairman Santhosh House Road in Ramachandrapura in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	:	AEE/Vidyaranyapura/PR/108/1/2014-15 Dated: 18.06.2014
SAMPLE ID	:	CEMENT
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-1989
1	a) Initial Setting Time	IS-4031 (Part -5)	170 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	485 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm
3	Standard Consistency	IS-4031 (Part -4)	25.50 %	-

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NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.10/SN/SAND/2014-15 : 20.06.2014

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. S. Narayanaswamy,** Contractor, Bangalore.

Name of Work : Improvements to roads and drains opp. to Chairman Santhosh House Road in Ramachandrapura in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/Vidyaranyapura/PR/108/1/2014-15 Dated: 18.06.2014

Date of Testing : 20.06.2014

Material : Sand Total Wt. of Aggregates in gms **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	83	4.15	4.15	95.9	90-100
2.36	243	12.15	16.30	83.7	75-100
1.18	389	19.45	35.75	64.3	55-90
600 Micron	514	25.70	61.45	38.6	35-59
300 Micron	481	24.05	85.50	14.5	8-30
150 Micron	189	9.45	94.95	5.1	0-10

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Job No.: CTCE/BBMP/W.No.10/SN/AGG/2014-15 : 20.06.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. S. Narayanaswamy,** Contractor, Bangalore.

Name of Work : Improvements to roads and drains opp. to Chairman Santhosh House Road in Ramachandrapura in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/Vidyaranyapura/PR/108/1/2014-15 Dated: 18.06.2014

Date of Testing : 20.06.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **25100**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	972	3.87	3.87	96.13	95-100
20	15956	63.57	67.44	32.56	30-70
10	5367	21.38	88.82	11.18	10-35
4.75	2445	9.74	98.57	1.43	0-5

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Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.10/SN/STEEL/2014-15 21.06.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	:	**Mr. S. Narayanaswamy,** Contractor, Bangalore.
Name of the Work	:	Improvements to roads and drains opp. to Chairman Santhosh House Road in Ramachandrapura in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	:	AEE/Vidyaranyapura/PR/108/1/2014-15 Dated: 18.06.2014
Date of Test	:	21.06.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per meter (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	8	0.40	513	545	12.75	O.K	O.K

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Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.10/SN/STEEL/2014-15

21.06.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	:	**Mr. S. Narayanaswamy,** Contractor, Bangalore.
Name of the Work	:	Improvements to roads and drains opp. to Chairman Santhosh House Road in Ramachandrapura in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	:	AEE/Vidyaranyapura/PR/108/1/2014-15 Dated: 18.06.2014
Date of Test	:	21.06.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per meter (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	516	548	12.95	O.K	O.K

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NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.10/SN/CUBE/2014-15

23.07.2014

TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	: **Mr. S. Narayanaswamy,** Contractor, Bangalore.
Name of the work	: Improvements to roads and drains opp. to Chairman Santhosh House Road in Ramachandrapura in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	: AEE/Vidyaranyapura/PR/108/1/2014-15 Dated: 18.06.2014
Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.06.2014	23.07.2014	8.159	474.8	21.10
2	25.06.2014	23.07.2014	8.237	498.5	22.16
3	25.06.2014	23.07.2014	8.318	516.3	22.95

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Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.10/SN/WMM/Gradation/2014-15

15.07.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Mr. S. Narayanaswamy,** Contractor, Bangalore.

Name of Work : Improvements to roads and drains opp. to Chairman Santhosh House Road in Ramachandrapura in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/Vidyaranyapura/PR/108/1/2014-15 Dated: 18.06.2014

Date of Testing : 15.07.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **25465**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	956	956	3.8	96.2	95-100
22.4	6514	7470	29.3	70.7	60-80
11.2	5196	12666	49.7	50.3	40-60
4.75	4538	17204	67.6	32.4	25-40
2.36	3693	20897	82.1	17.9	15-30
0.600	1927	22824	89.6	10.4	8-22
0.075	2256	25080	98.5	1.5	0-8

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Job No.: CTCE/BBMP/W.No.10/SN/SDBC/Bitumen/2014-15 21.07.2014

BITUMEN CONTENT DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AASHTO T 164

CLIENT	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. S. Narayanaswamy,** Contractor, Bangalore.
NAME OF THE WORK	Improvements to roads and drains opp. to Chairman Santhosh House Road in Ramachandrapura in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/Vidyaranyapura/PR/108/1/2014-15 Dated: 18.06.2014
SAMPLE I/D	Roads in Doddabommasandra, Ward No. 10, BBMP
DATE OF TESTING	21.07.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	476	476.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	24	23.50
7. Bitumen content in %	4.80	4.70
8. Average	**4.75**	

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Job No.: CTCE/BBMP/W.No.10/SN/SDBC/Gradation/2014-15 21.07.2014

BITUMEN GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AASHTO T 30

CLIENT	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. S. Narayanaswamy,** Contractor, Bangalore.
NAME OF THE WORK	Improvements to roads and drains opp. to Chairman Santhosh House Road in Ramachandrapura in Ward No. 10 (Doddabommasandra), Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/Vidyaranyapura/PR/108/1/2014-15 Dated: 18.06.2014
SAMPLE I/D	Roads in Doddabommasandra, Ward No. 10, BBMP
DATE OF TESTING	21.07.2014

GRADATION AFTER EXTRACTION

SIEVE SIZE	Trail 1				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	22.95	4.82	4.82	95.18	90-100
4.75	250.57	52.64	57.46	42.54	35-51
2.36	50.74	10.66	68.12	31.88	24-39
1.18	46.59	9.79	77.91	22.09	15-30
0.3	38.63	8.12	86.03	13.97	9-19
0.075	35.84	7.53	93.55	6.45	3-8

SIEVE SIZE	Trail 2				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	21.58	4.53	4.53	95.47	90-100
4.75	241.63	50.71	55.24	44.76	35-51
2.36	56.52	11.86	67.10	32.90	24-39
1.18	53.47	11.22	78.32	21.68	15-30
0.3	46.98	9.86	88.18	11.82	9-19
0.075	27.21	5.71	93.89	6.11	3-8

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